REMARKS

Reconsideration of this application, as amended, is respectfully requested.

At paragraph 11, page 2 of the Official Action, the Examiner indicates that the claim rejection(s) under 35 U.S.C. § 112, first paragraph, to claims 1, 10 and 11 has been maintained. The Examiner further indicates that applicants acknowledge, "that it is known in the art how similarity computation unit uses feature values to compute similarity."

Firstly, Applicants submit that claims 1, 10 and 11 were not previously rejected under 35 U.S.C. § 112, first paragraph. In the previous office action, claims 1, 10 and 11 were rejected under 35 U.S.C. §§ 101 and 112, second paragraph, because they merely recite a use without any active, positive steps delimiting how the use is actually practiced. By way of a telephonic Interview with the Examiner, the Examiner has confirmed that paragraph 11, page 2 of the Official Action should have referred to 35 U.S.C. § 112, second paragraph, and also confirmed that the same has been maintained even though not set forth in a later paragraph of the Final Official Action. Thus, although Applicants previously amended claims 1, 10 and 11 to clarify that the degree of similarity is calculated by evaluating the difference in the acquired feature values, the Examiner provides no basis for maintaining the rejection in light of such amendments.

However, in response to the rejection which is apparently maintained, Applicants submit that claim 11 has been canceled and claims 1 and 10 have been further amended herein. Applicants request that the rejection of claims 1 and 10 under 35 U.S.C. § 112, second paragraph, be reconsidered in light of the previous amendment thereto and the present amendment herein.

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Secondly, as discussed above, in response to the rejection of claims 1, 10 and 11 under 35 U.S.C. § 112, second paragraph, the same were previously amended to clarify that the degree of similarity is calculated by evaluating the difference in the acquired feature values. Although the Examiner indicates that applicants acknowledge, "that it is known in the art how similarity computation unit uses feature values to compute similarity," Applicants made no such acknowledgment that such a computation was known in the art. Applicants merely clarified the claim language in response to the Examiner's rejections.

To the contrary, Applicants submit that one of the merits of the 3D model retrieval method and system of claims 1 and 11, respectively, is that the user is able to change to the level of the hierarchy to which the specification is made with successive operation. In other words, the user can specify an object in the level of the self-specifying hierarchy of a region only by specifying a designated region of a shown 3D landscape. Specifically, when a user specifies a "sofa," the user can specify either "one sofa" or "a sofa set" whichever he or she prefers. There is no 3D retrieval key designating system more simple and easier to use than the method and system recited in claims 1 and 10, respectively.

In the Official Action, the Examiner rejects claims 10 and 11 under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. The Examiner argues that claims 10 and 11 recite systems without any tangible means to embody the system and requires an appropriate embodiment of the system claims (e.g., computer processor, storage and display). In response, claim 10 has been amended to recite tangible means to embody the system. Specifically, claim 10 now recites a computer and a display and at least one of a keyboard and mouse as suggested by the Examiner. Furthermore, claim 11 has been canceled.

In the Official Action, the Examiner rejects claims 1 and 4 under 35 U.S.C. §

112, second paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention.

With regard to claim 1, the Examiner argues that the phrases "the each sub-

element" and "unit in human recognition" are unclear. In response, the objectionable phrases

have been deleted from claim 1 and further amended to clarify the same.

With regard to claim 4, the same has been canceled, thereby rendering the

rejection thereof moot.

In the Official Action, the Examiner rejects claims 1, 2, 4, 6, 10 and 11 under

35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No.

2002/0004710 to Takaaki Murao (hereinafter "Murao").

Firstly, with regard to claims 4 and 11, the same have been canceled, thereby

rendering the rejection thereof moot.

Secondly, with regard to independent claims 1 and 10, the same have been

amended as discussed above to clarify the same. Specifically, claim 1 has been amended to

recite:

> A 3D model retrieval method for retrieving a 3D model
> similar to the specified 3D model from a plurality of 3D models
> stored in a database, the method comprising:
> displaying a plurality of 3D models, the plurality of 3D
> models as a whole having a hierarchial structure;
> specifying one 3D model of the hierarchical structure as a
> retrieval key by allowing a user to designate one of the plurality of
> 3D models displayed, the user being able to change to the level of
> the hierarchy to which the specification is made with a successive
> operation;
> acquiring the feature values of the 3D model specified as
> the retrieval key from the database;
> acquiring the feature values of the 3D model stored in the
> database as objects to be retrieved;

calculating the similarity between the 3D model specified as the retrieval key and 3D models stored as objects to be retrieved in the database by evaluating the differences of the both of the acquired feature values;

sorting the results of the calculation of the similarity; and

displaying a 3D model retrieved based on the result of the sorting.

Claim 10 has been amended to recite:

A 3D model retrieval system for retrieving a 3D model from a plurality of 3D models stored in a database, the system comprising a computer and a display and at least one of a keyboard and a mouse,

wherein the computer causes the display to display a plurality of 3D models, the 3D models as a whole having a hierarchial structure;

wherein the computer comprises:

a specifying section configured to specify one 3D model of the hierarchical structure as a retrieval key by allowing a user to designate one of the plurality of 3D models displayed with the at least one of the keyboard and the mouse, the user being able to change to the level of the hierarchy to which the specification is made with a successive operation;

a retrieval key feature values acquisition section configured to acquire the feature values of the 3D model specified as the retrieval key from the database;

a retrieval object feature values acquisition section configured to acquire the feature values of the 3D models stored as objects to be retrieved in the database;

a degree-of-similarity computing section configured to calculate the similarity between the 3D model specified as the retrieval key and 3D models stored as objects to be retrieved in the database by evaluating the differences of the both of the acquired feature values; and

a sorting section for sorting the results of the calculation of the similarity, and

wherein the computer causes the display to display the 3D model retrieved based on the result of the sorting.

(iii) Regarding the rejection under 35 U.S.C. §102

The dependent claims have also been amended to be consistent with their

amended base claim. The Amendments to claims 1 and 10 are fully supported in the original

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disclosure. Thus, no new matter has been entered into the original disclosure by way of the present amendment to claims 1 and 10.

Turning now to the prior art, Murao, cited by the Examiner, discloses the art of generating nodes for a bounding tree by analyzing a three-dimensional solid/surface model, generating a neighbor graph using a set of nodes for the bounding tree, and generating a bounding tree having a hierarchical structure by merging the nodes in the neighbor graph (see paragraph (0067] of Murao).

With regard to the first embodiment of Murao, the functions of a "bounding tree node generator 10," "neighbor graph generator 20" and "bounding tree generator 30" shown in FIG. 1 have been explained (see paragraphs [0064] and [0067]). With regard to the second embodiment, the function of a "difference list generator 40", which generates a difference list of the two bounding tress, are further explained (see paragraphs [0064] and [0097]). With regard to the third embodiment, Murao discloses adding a restrictive condition to a predetermined solid/surface model, and searching for a similar solid/surface model (see paragraphs [0064] and [0121]). Since independent claims 1 and 10 relate to the field of searching for a similar 3D object, Applicants assume that the Examiner applies the third embodiment of Murao against the claims of the present application.

In claims 1 and 10, of a plurality of 3D models having a hierarchical structure as a whole that are displayed, a user can specify one of the 3D models as a search key. In addition, by the successive operation, the user can change the level of the hierarchy in which specification is made. By this feature, the user can specify a 3D model in the hierarchy that he/she wishes to specify.

For example, in the hierarchical structure disclosed in an embodiment, a "chair" is included in a "living set", and the "living set" is included in a "western-style room." Even if an operator first specifies a "chair," with a simple operation, the level of the hierarchical structure to be specified can be changed to a "living set" or a "western-style room" (see page 15, lines 5-26 of the specification).

On the other hand, in Murao, the search key can only specify the whole of the bounding trees to which a restrictive condition is added (see paragraph [0124] of Murao).

Thus, Murao does not disclose or suggest <u>the feature of a user freely selecting the level of a hierarchical structure that he/she wishes to employ as the search key</u>. That is, Murao does not disclose "specifying one 3D model of the hierarchical structure as a retrieval key by allowing a user to designate one of the plurality of 3D model displayed, the user being able to change to the level of the hierarchy to which the specification is made with a successive operation". Accordingly, claims 1 and 10 patentably distinguish over Murao.

In paragraph [0044] pointed out by the Examiner, the element that is used as a search key is always "a tree structure", and there is no disclosure of "a sub-tree structure" being adopted as the search key.
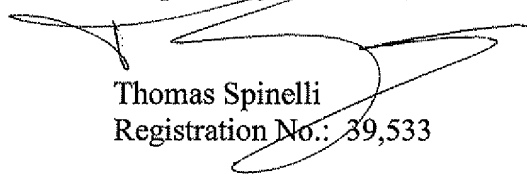
With regard to the rejection of claims 1, 2, 4, 6, 10 and 11 under 35 U.S.C. § 102(b), a 3D model retrieval method and system having the features discussed above and as recited in independent claims 1 and 10, respectively, is nowhere disclosed in Murao. Since it has been decided that "anticipation requires the presence in a single prior art reference, disclosure of each and every element of the claimed invention, arranged as in the claim,"[1] independent claims 1 and 10 are not anticipated by Murao. Accordingly, independent claims

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[1]   <u>Lindeman Maschinenfabrik GMBH v. American Hoist and Derrick Company</u>, 730 F.2d 1452, 1458; 221 U.S.P.Q. 481, 485 (Fed. Cir., 1984).

1 and 10 patentably distinguish over Murao and are allowable. Claims 2 and 6 being dependent upon claim 1 are thus at least allowable therewith (claims 4 and 11 being canceled).

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

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